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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,312	07/27/1999	AKIRA EZAWA	103903	5376
25944	7590	01/15/2004		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER VILLECCO, JOHN M	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,312

Applicant(s)

EZAWA, AKIRA

Examiner

John M. Villecco

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 3, 4 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION II

1. **This action is non-final** due to the new grounds of rejection presented for claim 9.

Drawings

2. The replacement drawings were received on October 14, 2003. These drawings are accepted.

Response to Arguments

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant has amended claim 1 to include the limitation of executing photographing preparations including a mechanical operation and argues that one skilled in the art would not be inclined to make combination of Fossum and Ohnuki since Ohnuki teaches a film camera. However, Ohnuki teaches that the camera can be used in a continuous shooting mode which is akin to the camera in the applicant's invention. Although, Ohnuki discloses performing photographing preparations in a film camera, one has to take into account the date of the Ohnuki patent. The Ohnuki patent was filed at a time when electronic camera were less known in the art. Furthermore, Official Notice is taken as to the fact that it is well known in the art to perform autofocus and mirror-down operations in a digital camera which was the basis of the obviousness statement in claim 2 of the previous office action. Therefore, it would have been obvious to perform autofocus and mirror down operations in the electronic camera of Fossum.

Art Unit: 2612

Additionally, the Fossum patent describes only the reading and writing operations of the image sensor. Fossum does not go into detail of how the image is focused onto the image sensor or if the imager provides a mirror for a viewfinding operation. Both of these operations are well known in the art of electronic imaging. Therefore, it would have been obvious to one of ordinary skill in the art to use the teachings of Ohnuki in the camera of Fossum to perform focusing and viewfinding.

Additionally, Ohnuki discloses that the purpose of performing the photographing preparations is to improve or maintain the frame rate of the camera in a continuous mode. The camera of Fossum performs its preparations so that a next frame can be captured. The preparation in each of these inventions is used to prepare the camera to capture a next frame. Therefore, one of ordinary skill in the art would have been motivated to combine Fossum and Ohnuki.

Claim Objections

5. ***Claim 9 is objected to*** because of the following informalities:

In claim 9, line 13, applicant recites the phrase “projects a subject image 1 onto said photosensitive surface.” This appears to be a typographical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2612

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum (U.S. Patent No. 6,486,503) in view of Ohnuki et al. (U.S. Patent No. 4,974,003).

8. Regarding *claim 1*, Fossum discloses a focal plane array comprised of many imaging cells for capturing an image by way of photoelectric conversion and reads out the charge to form an image signal. Additionally, Fossum discloses the ability to reset the imager during a readout period of the imaging sensor. The ability to reset the imager serves a preparation device for photographing the next image. For without a reset of the imaging device, the next image signal would not be a quality signal. See column 10, lines 5-12.

Fossum, however, fails to specifically disclose that the photographing preparations include a mechanical operation. Ohnuki, on the other hand, discloses that it is well known in the art to perform mechanical operations in a camera between capturing frames in a continuous shooting mode in order to maintain a frame speed. Ohnuki discloses that after performing a first photographing operation, photographing preparations are performed in order to prepare the camera for the second photographing operation. The photographing operations include a shutter charging and mirror-down. See column 5, lines 65-68. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Official Notice is taken as to the fact that it is well known in the art to perform autofocusing and mirror-down operations in an electronic camera. If used in the electronic camera of Fossum, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mirror-down and focus during a readout period so that the camera is placed into condition for taking a second

Art Unit: 2612

image and would not have to wait for the read out period to end in order to begin the second photograph. This would allow preparing for the second image faster and thus allowing for a quality image taken in a continuous shooting mode.

9. As for *claim 2*, as mentioned above, Ohnuki discloses that it is well known in the art to prepare a camera for the taking of a subsequent image during a continuous shooting mode in order to maintain a frame speed. Ohnuki discloses that after performing a first photographing operation, photographing preparations are performed in order to prepare the camera for the second photographing operation. The photographing operations include a shutter charging and mirror-down. See column 5, lines 65-68. Additionally, an auto focus is performed during the time until the second photograph is performed.

10. Regarding *claim 5*, Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed.

11. As for *claim 6*, Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Ohnuki discloses motor (MTR1), motor (MTR2), and lens motor (LMTR) used to drive the shutter charge, mirror, and focusing lens, respectively. (col. 3, line 48 – col. 4, line 15).

12. With regard to *claim 7*, Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-

Art Unit: 2612

68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Ohnuki discloses motor (MTR1), motor (MTR2), and lens motor (LMTR) used to drive the shutter charge, mirror, and focusing lens, respectively. (col. 3, line 48 – col. 4, line 15). The lens motor is used to adjust the focusing lens. The focusing lens is moved a plurality of times in between sequential shots in order to effect the proper focus. See Figure 2b. If used in the electronic camera of Fossum, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mirror-down and focus during a readout period so that the camera is placed into condition for taking a second image and would not have to wait for the read out period to end in order to begin the second photograph. This would allow preparing for the second image faster and thus allowing for a quality image taken in a continuous shooting mode.

13. Regarding *claim 8*, Fossum discloses applying the reset during the readout period. It would have been obvious to one of ordinary skill in the art at the time the invention was made to time the reset of Fossum so that the reset does not occur during an electrical charge read period in order to prevent charge from being discharged when it is supposed to be collecting in the well. Therefore, the charge of the subject image will be collected in the well and not reset.

14. Regarding *claim 9*, Fossum discloses a focal plane array comprised of many imaging cells for capturing an image by way of photoelectric conversion and reads out the charge to form an image signal. Additionally, Fossum discloses the ability to reset the imager during a readout period of the imaging sensor. The ability to reset the imager serves a preparation device for photographing the next image. For without a reset of the imaging device, the next image signal would not be a quality signal. See column 10, lines 5-12.

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum (U.S. Patent No. 6,486,503) in view of Sasaki (U.S. Patent No. 6,243,136).

16. Regarding *claim 9*, Fossum discloses a focal plane array comprised of many imaging cells for capturing an image by way of photoelectric conversion and reads out the charge to form an image signal. Additionally, Fossum discloses the ability to reset the imager during a readout period of the imaging sensor. The ability to reset the imager serves a preparation device for photographing the next image. For without a reset of the imaging device, the next image signal would not be a quality signal. See column 10, lines 5-12.

Fossum, however, fails to specifically disclose that upon detection of a completed readout, another image is captured. Sasaki, on the other hand, discloses that it well known in the art to capture another image after reading out the pixels of a previous exposure. Sasaki teaches an imager for capturing successive images in which after a readout period, the imager captures a second image. This is done in order to create a high resolution image. See column 10, lines 16-57. Clearly, the imager of Sasaki would include a mechanism for detecting when the read operation is completed so that the subsequent operations could be performed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to capture another image after the readout period in Fossum so that a high resolution image can be captured.

Allowable Subject Matter

17. **Claims 3 and 4 are objected to** as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

Regarding *claim 3*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest controlling all of a shutter mechanism, mirror mechanism, and an aperture mechanism to prepare for a second image during an electrical charge read period.

Regarding *claim 4*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest controlling all of a focal adjustment device, mirror mechanism, and a photometric device to prepare for a second image during an electrical charge read period.

19. **Claim 10 is allowed.**

20. The following is an examiner's statement of reasons for allowance:

Regarding *claim 10*, the primary reason for allowance is that the prior art fails to teach or reasonably suggest a time count device that times part of a length of time required for the photographing preparation and then adjusts the operation timing to ensure that the electrical charge read period does not overlap a subject image for the next frame.

Art Unit: 2612

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (For either formal or informal communications intended for entry. For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday through Thursday from 7:00 am to 5:30 pm EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2612

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service desk whose telephone number is (703) 306-0377.



JMV
12/29/03



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